WHAT IS THE MONTANA DIABETES PROJECT AND HOW CAN WE BE CONTACTED:

The Montana Diabetes Project is funded through a cooperative agreement with the Centers for Disease Control and Prevention, Division of Diabetes Translation (grant #432/CCU810617-03). The mission of the Diabetes Project is to reduce the burden of diabetes and its complications among Montanans. Our web page can be accessed at http://ahec.msu.montana.edu/diabetes/default.htm.

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MONTANA DIABETES SURVEILLANCE & CLINICAL COMMUNICATION

MONTANA DIABETES PROJECT

Montana Department of Public Health and Human Services
Chronic Disease Prevention and Health Promotion Program
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Montana Diabetes Surveillance & Clinical Communication

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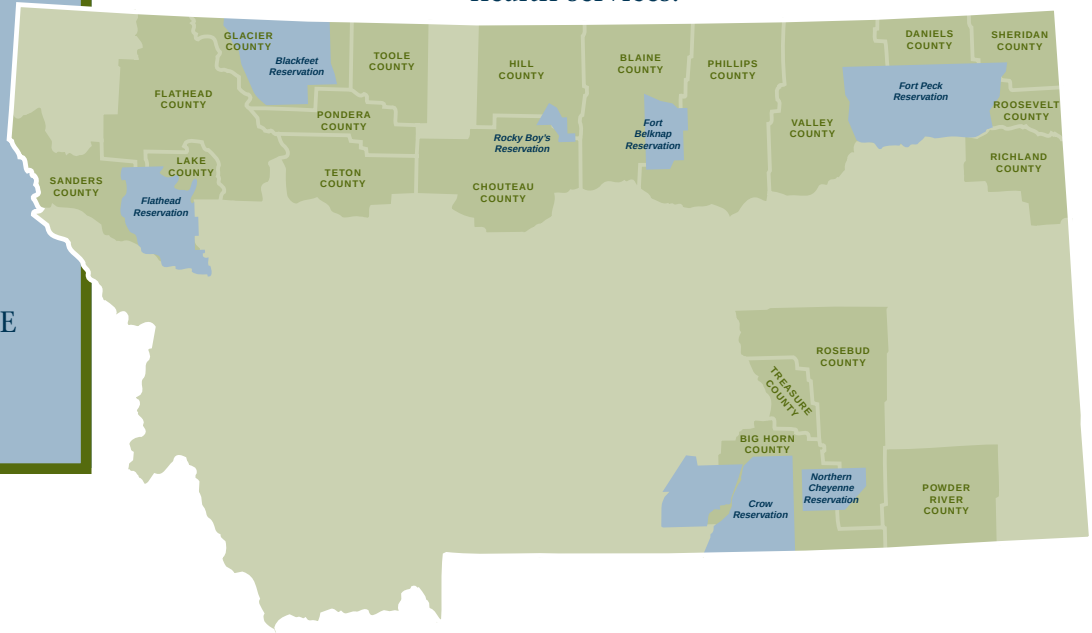
Diabetes among American Indian and White Montanans living on or near the seven Reservations, Behavioral Risk Factor Surveillance System Surveys

WHAT'S INSIDE

BACKGROUND:

Each year the Montana Department of Public Health and Human Services (MT DPHHS) conducts a telephone survey of a representative sample (N=1,800) of Montana adults (≥18 years of age). Information specifically related to Diabetes Mellitus has been collected since 1995. Additionally, a special telephone survey of adult American Indians living on or near the seven American Indian Reservations in Montana was conducted from May to July 1997. The purpose of these surveys is to describe important behavioral risks and health practices. This report describes the results of the 1997 special survey of American Indians and data from White Montanans (1994-1997) pertaining to the prevalence of diabetes among these populations as well as their self-reported use of health services.



HOW THESE SURVEYS WERE DONE

For the special 1997 survey of American Indians, trained interviewers made telephone calls to a random sample of households with 3-digit telephone prefixes which are on or near Reservations in Montana. In each household contacted one adult American Indian was asked to answer the questions. Calls were made until 57 persons (per Reservation) had been surveyed, for a total of 398 completed surveys. Approximately 10% of eligible persons contacted declined the interview. A similar methodology is used each year to complete the annual statewide survey of a representative sample of Montana adults. Questions from the Behavioral Risk Factor Surveillance System (BRFSS) Survey were used.

Montanans who participated in the 1994-1997 surveys were included in these analyses if they met the following criteria:

1. They lived in the following counties on or near the seven America Indian Reservations (Big Horn, Blaine, Chouteau, Daniels, Flathead, Glacier, Hill, Lake, Phillips, Pondera, Powder River, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Teton, Toole, Treasure, Valley).
2. They reported their race as "White" and that they did not consider themselves to be American Indian. (Two separate questions on BRFSS survey).

The crude prevalence rates are presented here, without adjustment for regional population differences. Additionally, the results for individual Tribes (or Reservations) are not presented here because the small number of respondents in individual tribal areas did not support statistically stable estimates.

CHARACTERISTICS OF AMERICAN INDIAN AND WHITE BRFSS RESPONDENTS:

As displayed in Table 1, American Indians tended to be younger (mean age = 42.6 years) than White respondents (mean age = 49.4 years). The distribution by gender was similar for both American Indian and White respondents. A larger proportion of White as compared to American Indian respondents

Characteristics of American Indian (1997) and White (1994-1997) BRFSS respondents living on or near the seven Reservations, Montana

TABLE 1.	American Indian (N=398)		White (N=1203)	
Age (years)*	**#**	**%**	**#**	**%**
18-29	81	20	163	14
30-49	203	51	490	41
≥50	114	29	550	46
Gender				
Male	165	41	504	42
Female	234	59	700	58
Education (years)*				
≥12	301	76	1066	89
≤12	97	24	137	11

*$p < 0.001$

Figure 11 displays the prevalence of diabetes among White respondents by age and gender. Again, the rates increased with age and there were no differences in the prevalence rates by gender.

FIGURE 9.

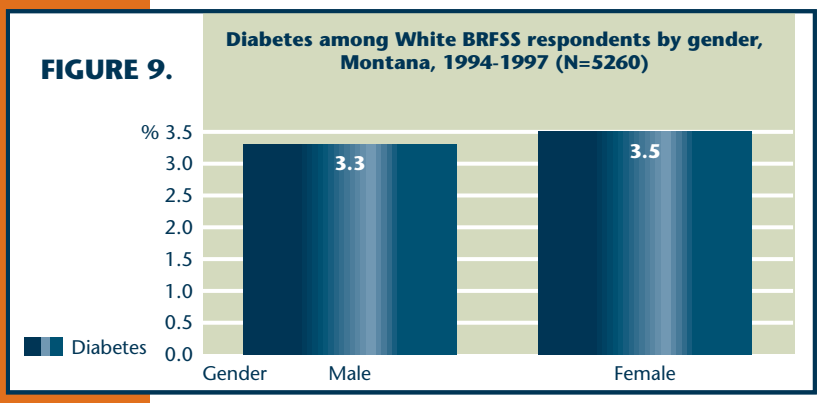


FIGURE 10.

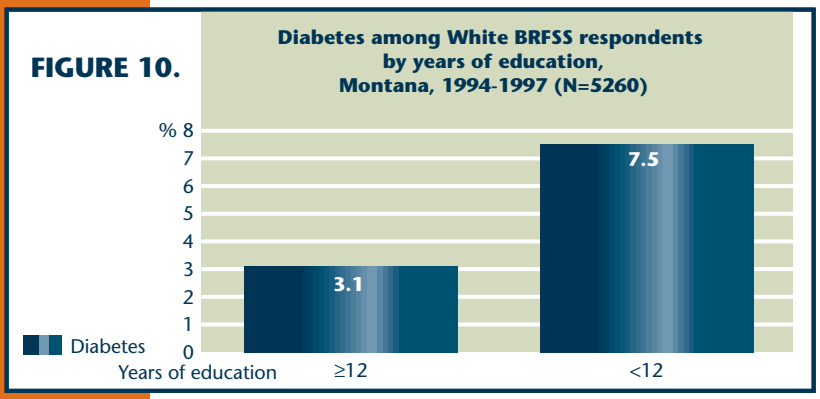
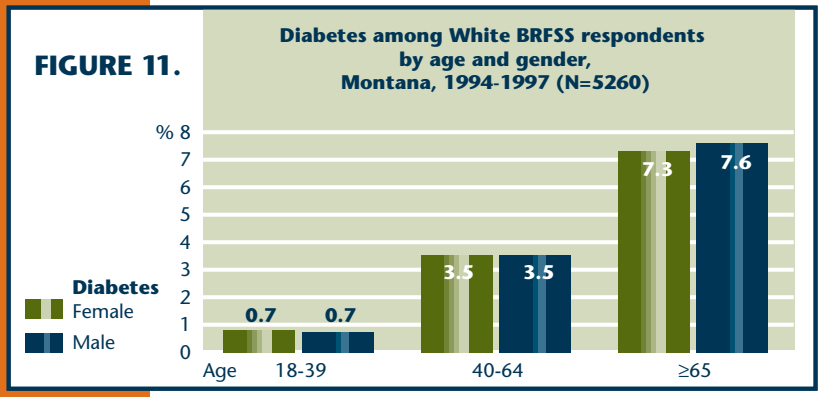


FIGURE 11.



UPCOMING EVENTS:

The Montana Chapter of the American Association of Diabetes Educators (MAADE), Kare Korps Inc., and the Montana Diabetes Project will be sponsoring the national AADE "From Basics Forward" course on Friday and Saturday, September 25-26, 1998 at the Radisson Northern Hotel in Billings. This two day course developed by the American Association of Diabetes Educators provides health care professionals with the basic tools to provide effective diabetes patient education. All professionals who want to increase their skills in providing diabetes care and education will benefit from attending. Continuing education credits will be requested for pharmacists, RNs, LPNs, and dieticians. For more information call the Montana Diabetes Project at (406) 444-6677 or MAADE at (406) 860-0171.

Diabetes among White Montanans, Behavioral Risk Factor Surveillance System Survey, 1994-1997

BACKGROUND:

As described in the preceding report, each year the MT DPHHS conducts a telephone survey of a representative sample (N=1,800) of Montana adults (≥18 years of age). This report describes the results of the data from White Montanan (N=5260) respondents from 1994 through 1997 pertaining to the prevalence of diabetes among this population.

CHARACTERISTICS OF WHITE BRFSS RESPONDENTS FROM 1994 THROUGH 1997:

Table 3 displays the characteristics of White BRFSS respondents from 1994 through 1997. The majority of respondents were 40-64 years of age (41%), female (58%), and had 12 or more years of education (93%).

PREVALENCE OF DIABETES:

The overall prevalence rate of diabetes among White BRFSS respondents from 1994 though 1997 was 3.4% (180/5260). The prevalence rates did not differ significantly from year to year (Figure 7). As displayed in Figures 8 and 9, the prevalence rate increased with age, and did not differ substantially by gender. Additionally, persons with less than 12 years of education had a prevalence rate over 2 times higher as compared to persons with 12 or more years of education (Figure 10).

Characteristics of White BRFSS respondents, Montana, 1994-1997 (N=5260)

TABLE 3. Characteristics	#(%)
Age (years)	
18-39	1900 (36)
40-64	2167 (41)
≥65	1188 (23)
Gender	
Male	2196 (42)
Female	3064 (58)
Years of Education	
≥12	4862 (93)
<12	388 (7)

FIGURE 4.

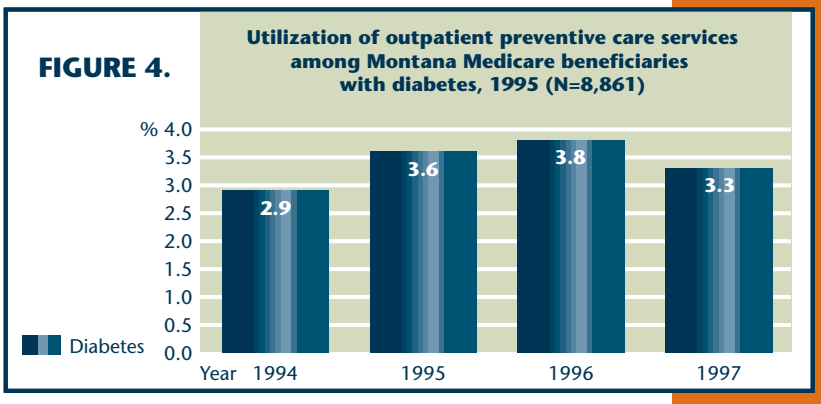
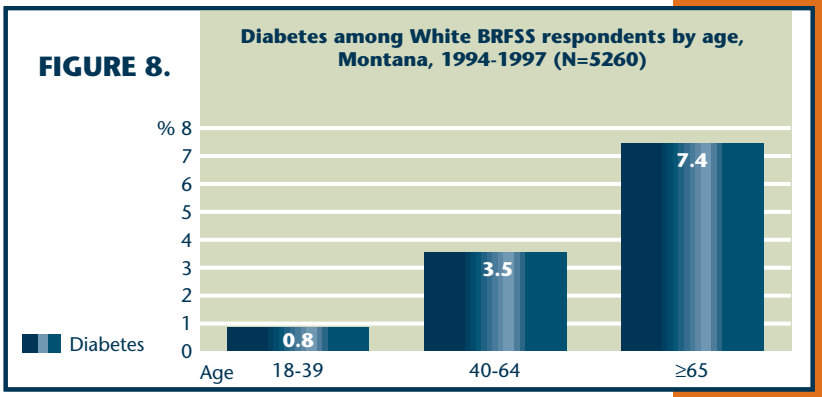
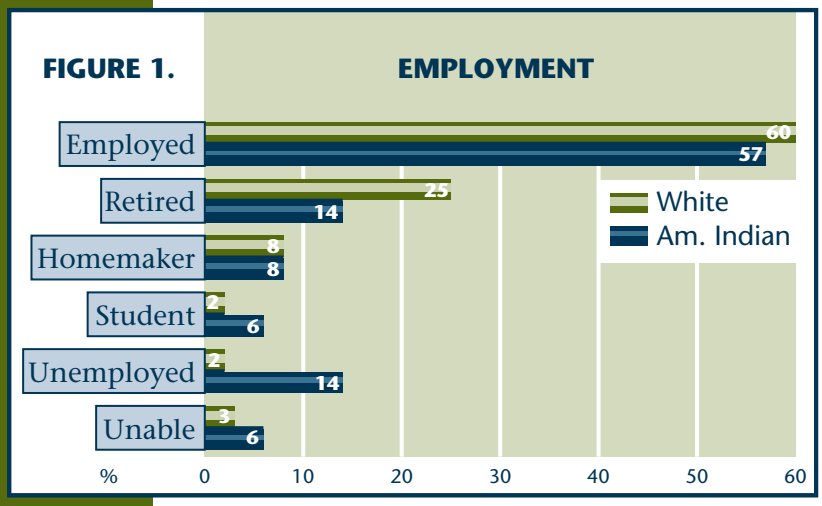
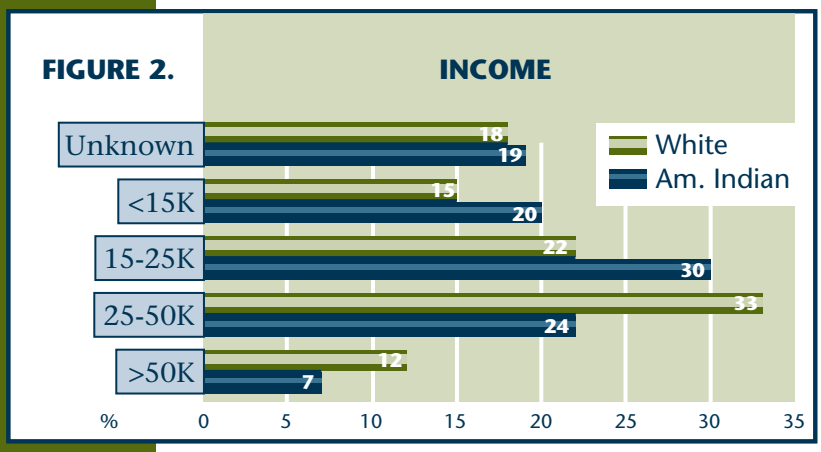
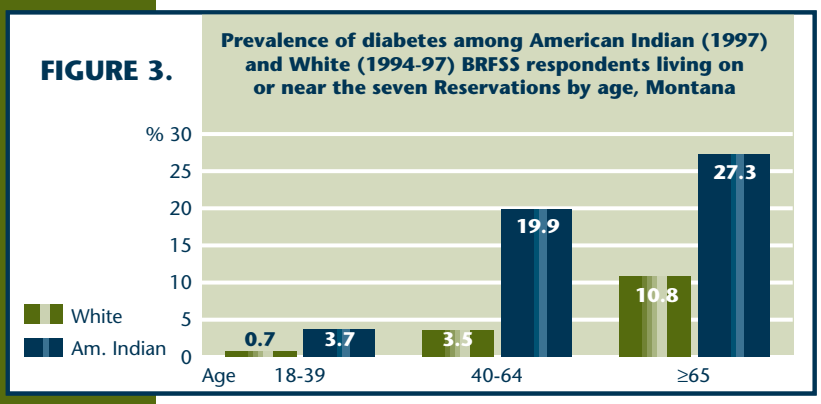


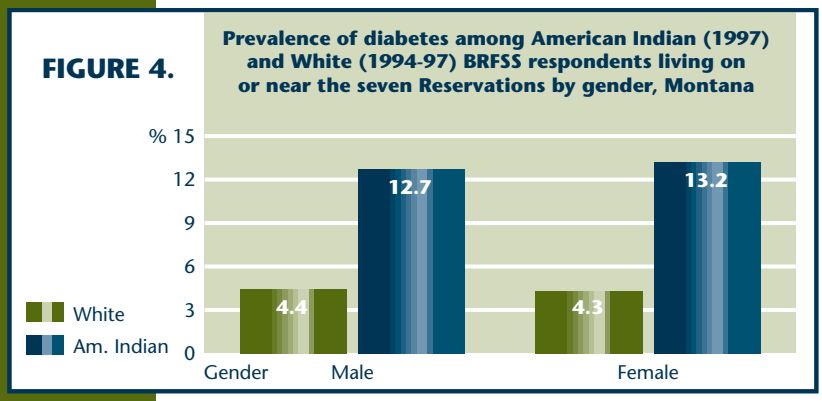
FIGURE 8.











had greater than or equal to 12 years of education (89% vs. 76%). Figures 1 & 2 display the employment and income distributions. Similar percentages of White and American Indian respondents reported that they were currently employed (60% and 57%, respectively). However, a larger proportion of White respondents reported being retired (25% vs. 14%), while more American Indians reported that they were unemployed (14% vs. 2%) or were currently students (6% vs. 2%). Additionally, White respondents reported higher levels of income as compared to American Indians.

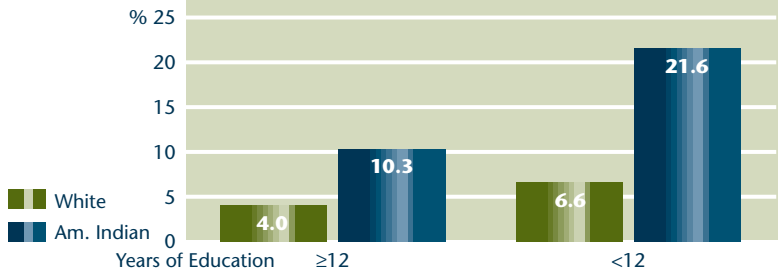
PREVALENCE OF DIABETES:

The prevalence of self-reported diabetes among American Indian respondents living on or near the seven Montana Reservations was 13.0% (52/398). This was three times higher than the prevalence reported by White respondents, 4.3% (52/1204).

Overall, the prevalence of diabetes among all respondents increased with age (Figure 3). The rates among American Indians as compared to Whites were considerably higher across all age categories. The prevalence rates of diabetes did not differ by gender within American Indian and White race groups (Figure 4). However, male and female American Indians were over 2.5 times more likely to report diabetes as compared to their White counterparts.

Among American Indian respondents, persons with less than 12 years of education were over 2 times more likely to report diabetes than were those with 12 or more years of education. Similarly among White respondents, those with less than 12 years of education (Figure 5) were over 1.6 times more likely to report diabetes.

FIGURE 5. **Prevalence of diabetes among American Indian (1997) and White (1994-97) BRFSS respondents living on or near the seven Reservations by years of education, Montana**



CHARACTERISTICS AND SELF-CARE/PREVENTIVE-CARE PRACTICES OF RESPONDENTS WITH DIABETES:

As displayed in Table 2, American Indian respondents report a significantly younger age of diagnosis for diabetes (mean age of 43.5 years) than did White respondents (mean age of 52.7 years). Additionally, American Indians reported a larger number of visits to a health care professional for diabetes care in the past year (mean 6.6 vs. mean 3.4, respectively).

Fifty-two percent of all respondents had been diagnosed with diabetes for less than or equal to eight years, 38% reported that they currently use insulin, and over 60% of respondents reported self-monitoring their blood glucose (SMBG) at least once per week. Over 70% of all respondents reported having an eye exam and a foot exam by a health care professional in the past year. Less than 45% of all respondents reported having a pneumococcal immunization ever. A larger percentage of American Indians reported having an influenza immunization in the past year as compared to White respondents (73% vs. 54%).

Self-care and preventive-care practices of American Indian (1997) and White (1994-1997) BRFSS respondents living on or near reservations and reporting diabetes, Montana.

TABLE 2.	American Indian (N=52)	White (N=52)
Characteristics	**Mean (SD†)**	**Mean (SD)**
Age at diagnosis††	43.5 (13.0)	52.7 (15.8)
Visits to HCP* in the past year††	6.6 (10.4)	3.4 (3.2)
	%	**%**
Years since diagnosis (≤8)	55	49
Are you currently taking insulin	40	34
Self-care and Preventive-care Practices		
SMBG** at least once per week	62	67
Have you had an eye exam in the past year	75	74
Foot exam by a HCP in the past year	77	78
Influenza immunization in the past year	73	54
Pneumococcal immunization ever	42	37
Blood pressure checked in the past year	98	100

*Health care professional, **Self-monitor blood glucose, †Standard deviation, ††p<0.05

The health care utilization data suggest that there are a number of opportunities to improve care for both American Indian and White Montanans with diabetes (displayed in Figure 6). Yearly dilated retinal exams are recommended for most persons with diabetes (American Diabetes Association's Clinical Practice Recommendations 1998) and visual foot exams by a health care provider should be completed at each clinic visit. Yearly influenza immunizations and at least a one-time pneumococcal immunization are also recommended for all persons with diabetes regardless of age (CDC, Advisory Committee on Immunization Practices 1997).

DATA LIMITATIONS:

There are a number of limitations to the data and analysis presented above. First, data collected through the BRFSS are self-reported. As a result, the number of respondents who had been diagnosed with diabetes but who did not report this in the telephone interview is unknown. It is also possible that some respondents reported that they had been diagnosed with diabetes, even though a physician had not made that diagnosis. And, it is likely that a certain number of respondents do have diabetes but reported that they did not because the diagnosis had not been made. Secondly, some of the data presented were not statistically adjusted to account for age or economic differences for American Indian and White Montanans living on or near each reservation. Third, because the survey was conducted by telephone the behavioral risk patterns of adult Montanans who live in homes without phones may not be reflected in the results presented here.

FIGURE 6.